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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,022	09/18/2006	Christoph Briehn	WAS0806PUSA	3200
22045 7590 08/14/2008 BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075				
EXAMINER				
PAK, HANNAH J				
ART UNIT		PAPER NUMBER		
4171				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/599,022

**Applicant(s)**

BRIEHN ET AL.

**Examiner**

Hannah Pak

**Art Unit**

4171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/08)  
Paper No(s)/Mail Date 10/18/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION*****Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-18 of copending Application No. 10/599,285, hereinafter referred to as "U.S. Appl. '285." Although the conflicting claims are not identical, they are not patentably distinct from each other.

The instant application claims a curable composition comprising a binder and functionalized particles. U.S. Appl. '285 also claims a curable composition comprising a binder and functionalized particles, but the n-value in the respective formula is more narrow, reciting 0, 1, and 2, than the respective formula in the instant application, which greater or equal to 1. Hence, the scope of the claims of U.S. Appl. '285 is encompassed by the claims in the instant claim. Accordingly, one of ordinary skill in the art would have recognized the curable

Art Unit: 4171

compositions claimed in the current and co-pending applications are obvious variations of one another.

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

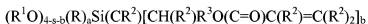
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 9-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Olson et al. (US 4,491,508).**

The applicants claim a curable composition, comprising a binder bearing at least one ethylenically unsaturated group, and functionalized particles which possess at least one ethylenically unsaturated group and contain radicals of the formula I represented by  $\Xi\text{Si-CR}_2^3\text{-A-D-C}$ . The functionalized particles having an average diameter of less than 1000 nm are further defined by a process involving reacting particles of a metal oxide, metal-silicon mixed oxide, silicon dioxide, colloidal silicon dioxide, organopolysiloxane resin, or combination thereof, with the organosilanes having the general formula,  $(\text{R}^1\text{O})_{3-n}(\text{R}^2)_n\text{Si-CR}_2^3\text{-A-D-C}$ , and optionally with water.

With respect to claims 9-16, Olson et al. teach a UV curable coating composition comprising a mixture of aqueous colloidal silica (or silicon dioxide) having a submicron diameter size, i.e., encompassed by the claimed range of less than 1000 nm (=1 micron), which corresponds to the claimed colloidal silicon dioxide particles with the functionality of Si-OH (colloidal silicon dioxide in water) and silyl acrylate having the formula (I),



wherein  $\text{R}^1$  is a  $\text{C}_{(1-8)}$  alkyl radical (includes methyl or ethyl),  $\text{R}^2$  is selected from hydrogen,  $\text{R}^3$  is a divalent  $\text{C}_{(1-8)}$  alkylene (a type of hydrocarbon) radical,  $a$  is a whole number equal to 0-2 inclusive,  $b$  is an integer equal to 1-3 inclusive; this corresponds to the claimed organosilane of the general formula II (Col. 1, line 31-Col. line 2 and Col. 3, lines 45-50). The UV curable coating composition further comprises polyfunctional acrylate monomers, which correspond to the claimed binder bearing at least one ethylenically unsaturated group (Col. 1, lines 54-60 and Col. 2, lines 33-44). Moreover, Olson et al. also teach applying UV curable hardcoat

composition onto various substrates, and thereafter cured under UV radiation to produce adherent and abrasion resistant coated articles (see abstract and Examples 3-4).

Although Olson et al. do not specify formula I recited in claim 9 is formed, there is a reasonable basis to find such product is formed in Olson et al. since it combines the same ingredients required by the claims (*see MPEP § 2112 [R-3], V*).

**Claims 9-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fukushima et al. (US 6,306,502).**

With respect to claims 9-16, Fukushima et al. disclose a coating composition excellent in curability and useful for forming an abrasion resistant coating comprising particulate colloidal silica having a primary particle size of 1-200 mμ (encompassed by the claimed range of less than 1000 nm) dispersed in water or organic solvent, such as alcoholic solvents, which corresponds to the claimed colloidal silicon dioxide particles with the functionality of Si-OH, and a radical polymerizable silane compound or its hydrolysis product represented by the general formula,  $(X-R^1)_a(R^2)_bSi(OR^3)_{4-a-b}$ , wherein X represents  $CH_2=CHC(=O)O$ ,  $R^1$  represents an alkylene group with 0-8 carbons,  $R^2$  and  $R^3$  are alkyl groups with 1-8 carbons, and a is a positive integer of 0-2, and a+b is a positive integer of 1-3; this corresponds to the claimed organosilane of the general formula II (Col. 3, lines 10-32 and Col. 19, lines 15-20). The coating composition further comprises polyfunctional (meth)acrylate exposed to ultra-violet-induced polymerization, which corresponds to the claimed binder bearing at least one ethylenically unsaturated group (Col. 3, lines 34-55 and Col. 4, line 56-Col. 5, line 4). Furthermore, Fukushima et al. disclose applying the coating composition to the surface of synthetic resin molded articles, and then cure it by

Art Unit: 4171

ultraviolet radiation energy, to improve abrasion resistance, weather resistance, and the like (Col. 12, lines 41-55).

Although Fukushima et al. do not specify formula I recited in claim 9 is formed, there is a reasonable basis to find such product is formed in Fukushima et al. since it combines the same ingredients required by the claims (*see MPEP § 2112 [R-3], V*).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571)270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 4171

Hannah Pak  
Examiner  
Art Unit 4171

/HP/